

3.9 Bella Vista

Daily minimum, maximum, and average values of temperature (T), relative humidity (RH), scalar wind speed (S), and standard deviation of the unit vector wind direction (σ_{θ}) are listed in Tables 35, 36, 37, and 38. In addition, unit vector wind direction (θ) and vector wind speed (U) for each day are also listed in these tables. The 5-min values of θ and U were used to construct wind roses for June, July, August, and September which are shown in Figures 53, 54, 55, and 56, respectively.

Bella Vista is yet another hot and dry site in the northern San Joaquin Valley. Daytime high temperatures average 35 °C during June, July, and August with a slight cooling to about 31 °C in September. Average nighttime lows are about 15 °C. Relative humidity ranges from a low of 15 to 20% during the day to a high of 75 to 80% at night. Scalar average wind speeds are generally light with values at about 2 m s⁻¹. The Bella Vista wind roses are similar to those for Shasta Lake. June is dominated by a north-northwesterly flow. However, winds tend to be slight stronger with speeds reaching 8 m s⁻¹. In July and August, the wind distribution tends to be more bimodal with flow from both the north-northwest and south-southeast. The wind speed during these two months also decreases to about 2 to 3 m s⁻¹. By September, however, a strong north-northwesterly to northerly flow has reestablished itself with wind speeds reaching up to 5 to 6 m s⁻¹.

Table 35. Bella Vista monthly weather and wind summary for June.

Day	T (°C)			RH (%)			S (m s ⁻¹)			Θ (deg)	U (m s ⁻¹)	C _g (deg)		
	min	max	avg	min	max	avg	min	max	avg			min	max	avg
1	15.6	32.5	24.7	11.5	60.0	22.5	0.4	4.9	2.6	324.0	1.0	3.4	63.0	17.5
2	11.3	31.7	22.4	12.7	89.2	43.2	0.2	4.4	1.6	218.6+	0.5+	2.5+	73.1+	19.8+
3	10.6	34.8	23.7	9.0	87.1	39.1	0.4	3.1	1.4	276.9	0.1	2.5	71.7	21.1
4	11.2	32.6	23.4	13.4	84.2	39.5	0.2	5.1	1.7	198.4	0.7	0.3	72.3	20.0
5	13.7	27.5	20.1	18.2	62.3	44.1	0.2	3.7	1.9	171.1	1.3	3.3	76.7	20.0
6	11.5	30.4	21.8	13.1	86.3	47.4	0.2	3.7	1.5	175.7	0.5	3.7	73.3	24.1
7	12.5	25.6	19.0	30.2	97.6	59.0	0.2	5.6	2.3	203.4	1.1	3.6	60.4	19.1
8	12.8	20.9	16.0	54.6	98.4	82.8	0.3	3.5	1.7	167.3	1.2	7.5	75.6	19.8
9	13.5	22.1	16.8	47.4	93.5	72.9	0.2	3.8	1.4	201.5+	0.4+	2.2+	71.6+	18.9+
10	12.9	25.3	18.8	29.3	90.7	54.3	0.2	3.1	1.5	239.0	0.4	0.5	72.7	21.0
11	10.4	27.5	20.0	27.8	90.7	53.2	0.3	3.1	1.4	301.1	0.4	3.8	70.7	21.4
12	18.6	28.8	23.6	37.0	77.0	49.3	0.3	5.9	2.4	267.5	1.9	6.0	57.9	18.7
13	17.5	38.9	28.5	16.9	82.4	35.5	0.8	6.9	3.5	346.7	3.2	5.0	49.5	15.3
14	26.6	42.7	33.9	13.0	36.4	23.3	1.6	7.4	4.4	349.6	4.2	6.7	24.2	14.5
15	25.7	40.3	32.5	13.5	35.9	25.4	1.4	7.3	4.2	347.9	4.0	5.1	26.2	14.2
16	25.1	36.7	30.3	11.4	28.0	16.1	3.0	10.1	5.9	359.9	5.5	9.8	23.8	16.3
17	20.9	39.2	30.9	9.1	57.5	17.6	0.4+	6.5+	3.2+	352.8+	2.7+	3.0+	68.3+	19.1+
18	16.8	31.0	24.1	32.2	76.9	54.6	0.3+	4.5+	2.0+	181.4+	1.4+	2.4+	71.5+	19.9+
19	15.9	36.0	26.9	14.8	91.0	40.0	0.2	5.9	3.1	347.5	2.8	3.4	27.3	14.7
20	20.9	39.6	30.3	9.2	63.6	23.7	0.2	6.1	3.3	344.3+	3.0+	3.1+	35.8+	15.5+
21	15.0	39.4	28.6	12.7	82.9	38.6	0.2	3.5	1.6	174.4	0.2	4.2	69.4	21.2
22	18.0	37.8	28.5	15.8	80.3	41.8	0.2	3.9	1.7	199.2	0.4	3.9	68.8	21.3
23	16.5	36.8	26.9	13.9	86.9	44.0	0.2	4.3	1.5	166.3	0.7	3.7	70.3	21.9
24	14.6	37.2	26.8	12.3	81.4	40.8	0.2+	3.1+	1.3+	205.3+	0.4+	2.6+	79.3+	23.3+
25	16.5	38.6	28.5	13.7	83.4	41.6	0.2	3.2	1.4	229.6	0.3	2.5	77.8	23.4
26	18.8	41.3	30.8	12.8	82.1	40.3	0.3+	3.7+	1.7+	301.7+	0.3+	3.2	71.5	21.1
27	21.2	40.6	31.6	12.0	74.2	37.3	0.2	4.4	1.9	337.9	0.6	0.3	68.0	19.7
28	20.5	42.1	32.1	11.0	81.5	39.7	0.2+	3.3+	1.5+	76.3+	0.1+	3.0	74.2	22.6
29	21.5	39.8	31.6	16.3	76.2	39.4	0.3	4.0	2.0	231.3	0.3	4.0	58.0	19.6
30	19.8	33.8	27.2	23.2	69.2	44.9	0.3	4.7	1.9	179.9	1.5	3.4	50.8	20.5
min	10.4	20.9	16.0	9.0	28.0	16.1	0.2	3.1	1.3		0.1	0.3	23.8	14.2
max	26.6	42.7	33.9	54.6	98.4	82.8	3.0	10.1	5.9		5.5	9.8	79.3	24.1
avg	16.9	34.4	26.0	18.9	76.2	41.7	0.5	4.8	2.2	330.9	0.6	3.6	61.8	19.5

Explanation of Symbols:

- All data unavailable for day
- * More than two hours of data unavailable
- + Two hours or less of data unavailable
- (no symbol) All data available for day

Table 36. Bella Vista monthly weather and wind summary for July.

Day	T (°C)			RH (%)			S (m s ⁻¹)			Θ (deg)	Ū (m s ⁻¹)	ϯ _g (deg)		
	min	max	avg	min	max	avg	min	max	avg			min	max	avg
1	15.4	30.1	23.8	22.5	73.5	44.6	0.2	4.6	1.9	173.3	1.5	3.7	67.9	21.8
2	16.6	30.8	23.2	21.0	82.2	48.7	0.2	4.8	1.9	163.9	0.6	1.8	77.2	22.1
3	15.1	28.6	21.8	25.6	76.5	50.7	0.2	4.7	1.9	150.8	0.8	2.8	68.8	22.8
4	15.0	30.1	21.1	19.2	93.4	54.2	0.4	3.8	2.1	345.1	1.2	3.3	66.2	19.5
5	14.4	24.5	19.0	42.1	98.6	72.7	0.2+	4.7+	1.7+	228.1+	0.3+	0.4	61.4	18.9
6	13.3	28.4	21.1	19.5	93.9	56.4	0.2	3.9	1.4	238.6+	0.2+	3.0+	78.7+	24.4+
7	14.3	28.7	21.2	21.5	84.9	51.1	0.2	3.7	1.4	186.8	0.8	0.5	78.3	23.2
8	10.4	31.3	21.6	12.0	88.3	45.3	0.3	3.1	1.4	195.8	0.2	3.3	72.6	24.2
9	12.3	35.8	25.1	10.5	83.8	39.7	0.2+	4.5+	1.7+	338.8+	0.3+	1.0+	75.3+	20.6+
10	14.1	35.5	25.7	13.6	79.5	40.0	0.2+	3.8+	1.6+	179.1+	0.5+	0.5+	77.3+	21.2+
11	14.2	36.3	26.1	12.7	86.9	41.9	0.2+	3.9+	1.6+	198.3+	0.5+	3.5+	69.1+	21.9+
12	14.9	36.7	26.8	12.5	78.9	38.9	0.4	3.7	1.7	200.1	0.6	3.6	62.2	21.6
13	16.5	33.3	25.4	19.6	80.1	46.5	0.3	4.5	1.7	185.9	1.1	4.0	77.1	21.9
14	14.0	34.7	25.2	10.9	88.1	42.3	0.3+	4.4+	1.5+	205.1+	0.4+	0.3	64.1	22.9
15	14.4	36.0	26.1	9.6	77.5	34.4	0.2+	4.3+	1.6+	195.2+	0.4+	0.3	67.9	21.7
16	18.7	34.3	25.6	14.1	62.0	38.9	0.3+	4.5+	1.8+	183.2+	1.0+	2.6+	76.3+	22.7+
17	15.3	31.0	23.4	17.4	77.1	44.4	0.2	5.2	2.0	183.1+	1.5+	2.2+	65.2+	20.1+
18	13.9	34.5	24.4	11.2	81.7	39.2	0.2+	3.8+	1.5+	194.3+	0.3+	2.5+	73.8+	20.5+
19	14.2	38.0	27.0	11.5	73.1	35.2	0.3+	3.5+	1.4+	213.6+	0.2+	2.9+	65.8+	23.2+
20	15.8	40.8	29.1	6.1	75.9	37.1	0.3+	3.7+	1.6+	307.1+	0.2+	0.6	73.7	22.4
21	16.9	36.7	27.8	10.9	82.0	39.8	0.3+	5.2+	2.0+	191.6+	1.2+	2.1	76.5	19.9
22	15.3	35.2	25.8	9.7	79.5	38.4	0.2	3.3	1.5	160.4	0.6	2.2	69.7	21.9
23	14.2	37.9	27.0	8.4	70.4	31.4	0.3+	3.3+	1.6+	313.3+	0.3+	0.3	71.5	21.2
24	14.2	39.1	28.1	11.0	72.7	32.9	0.3+	3.7+	1.6+	202.6+	0.3+	2.2+	71.2+	20.6+
25	16.3	39.0	28.6	8.4	74.1	33.3	0.2	4.1	1.5	266.1	0.5	2.4	67.2	22.6
26	14.8	34.7	26.2	16.6	76.0	39.7	0.2	4.8	1.7	186.3	0.7	4.7	66.3	22.4
27	13.9	37.2	26.7	10.2	78.3	36.1	0.3+	3.2+	1.5+	193.9+	0.7+	2.3+	75.5+	24.0+
28	14.6	38.7	27.4	9.8	79.5	36.1	0.2+	3.2+	1.4+	214.7+	0.4+	2.7+	73.6+	22.5+
29	15.0	41.6	28.8	5.4	73.1	34.5	0.3	4.1	1.8	243.9	0.1	2.3	70.6	20.4
30	16.4	40.6	29.0	10.8	73.9	34.1	0.3+	3.5+	1.3+	231.6+	0.2+	1.2+	71.1+	21.0+
31	18.3	43.6	32.3	9.8	71.0	33.2	0.2	3.9	1.5	335.5	0.9	2.9	73.4	22.5
min	10.4	24.5	19.0	5.4	62.0	31.4	0.2	3.1	1.3		0.1	0.3	61.4	18.9
max	18.7	43.6	32.3	42.1	98.6	72.7	0.4	5.2	2.1		1.5	4.7	78.7	24.4
avg	14.9	35.0	25.5	14.3	79.6	41.7	0.3	4.0	1.6	196.5	0.4	2.2	71.1	21.8

Explanation of Symbols:

- All data unavailable for day
- * More than two hours of data unavailable
- + Two hours or less of data unavailable
- (no symbol) All data available for day

Table 37. Bella Vista monthly weather and wind summary for August.

Day	T (°C)			RH (%)			S (m s ⁻¹)			Θ (deg)	U (m s ⁻¹)	C _g (deg)		
	min	max	avg	min	max	avg	min	max	avg			min	max	avg
1	25.2	41.2	33.8	16.6	53.9	27.5	0.3+	5.3+	2.5+	319.9+	0.9+	3.9	68.5	18.0
2	23.2	42.2	33.2	11.9	63.2	32.4	0.3+	4.3+	2.2+	307.4+	0.2+	3.9+	72.0+	20.2+
3	20.0	37.8	29.2	10.7	77.9	39.4	0.2	4.5	1.7	193.2	0.9	3.4	72.0	21.2
4	16.6	36.2	27.1	11.9	67.9	34.0	0.3+	4.1+	1.7+	192.3+	0.9+	3.0	68.1	18.6
5	17.6	39.6	28.8	8.9	70.2	34.7	0.3+	4.3+	1.5+	200.8+	0.3+	0.3	65.5	22.4
6	17.5	40.8	29.4	9.7	79.1	38.4	0.3+	3.7+	1.5+	234.9+	0.2+	1.2	69.2	22.6
7	18.2	35.1	27.2	25.3	79.8	46.1	0.2+	5.1+	2.0+	170.5+	1.3+	4.0	70.5	21.2
8	16.3	35.5	26.3	17.4	81.8	43.9	0.3+	4.2+	1.7+	173.3+	0.8+	1.0	77.5	21.1
9	17.0	34.2	25.6	14.0	71.6	39.8	0.3+	5.4+	1.8+	174.3+	1.1+	3.8	68.3	22.3
10	13.6	31.5	23.0	19.1	77.2	42.6	0.2+	4.9+	1.9+	195.0+	1.1+	2.3+	71.0+	18.4+
11	12.8	37.4	25.5	8.3	85.3	38.2	0.3+	3.3+	1.4+	325.1+	0.4+	2.0	71.7	21.3
12	14.5	37.5	26.9	11.8	73.9	35.3	0.4	3.9	1.6	216.7	0.4	1.8	64.1	19.7
13	13.8	37.2	26.3	9.8	80.1	35.1	0.3	3.9	1.5	230.2	0.4	2.4	78.5	23.6
14	15.7	37.3	27.5	10.4	56.4	27.3	0.2	4.4	2.1	301.3	0.5	3.8	66.9	19.7
15	14.6	38.5	27.0	8.9	71.4	32.2	0.2	4.4	1.6	312.2	0.6	3.2	67.3	22.2
16	14.9	40.1	28.3	7.9	63.8	28.2	0.2	4.5	1.7	342.6	0.8	5.6	75.0	22.9
17	14.8	37.5	26.8	7.9	68.0	29.9	0.2	4.8	1.6	260.2	0.6	4.5	76.4	22.7
18	11.8	34.2	24.0	10.8	67.6	31.9	0.2	3.6	1.5	169.2	0.5	4.0	72.6	22.7
19	12.6	32.2	23.5	13.7	77.6	40.8	0.2	4.3	1.7	178.1	0.6	2.1	73.4	21.1
20	14.2	34.4	24.7	14.4	76.1	40.5	0.3	4.4	1.7	348.4	0.5	2.0	75.5	19.5
21	14.0	36.4	26.1	11.4	76.1	36.2	0.2	4.7	2.0	326.0	0.6	2.2	72.6	19.7
22	14.2	35.9	24.9	11.4	82.5	40.8	0.2+	4.1+	1.4+	187.0+	0.4+	0.5+	69.1+	20.7+
23	12.8	34.6	24.4	15.4	77.0	40.3	0.3+	4.3+	1.7+	201.8+	0.7+	2.6+	77.8+	19.7+
24	12.1	35.2	23.9	11.6	87.5	42.7	0.2	3.9	1.3	216.3+	0.2+	3.2+	74.7+	22.6+
25	11.6	36.7	25.0	11.3	75.9	34.3	0.3+	3.5+	1.4+	253.2+	0.2+	1.8+	69.3+	21.2+
26	13.4	35.8	25.0	9.2	73.1	32.9	0.3	3.8	1.5	199.5	0.3	2.2	68.6	21.0
27	12.7	37.0	25.1	9.1	75.2	34.0	0.2	3.6	1.4	240.6	0.1	1.9	74.3	20.6
28	13.3	38.3	26.1	10.1	70.9	32.8	0.3	3.1	1.4	234.6	0.2	2.4	72.6	20.6
29	15.9	29.8	21.9	29.4	72.5	50.4	0.3+	4.1+	1.5+	173.7+	0.7+	1.1+	74.3+	18.1+
30	12.3	29.0	20.2	27.0	88.0	59.1	0.2+	5.3+	1.8+	174.8+	1.1+	0.6	69.6	18.5
31	12.8	23.5	18.5	43.2	88.8	67.5	0.2+	3.8+	1.5+	175.4+	0.9+	1.2+	59.6+	17.9+
min	11.6	23.5	18.5	7.9	53.9	27.3	0.2	3.1	1.3		0.1	0.3	59.6	17.9
max	25.2	42.2	33.8	43.2	88.8	67.5	0.4	5.4	2.5		1.3	5.6	78.5	23.6
avg	15.2	35.9	26.0	14.1	74.5	38.4	0.3	4.2	1.7	207.9	0.3	2.5	71.2	20.7

Explanation of Symbols:

- All data unavailable for day
- * More than two hours of data unavailable
- + Two hours or less of data unavailable
- (no symbol) All data available for day

Table 38. Bella Vista monthly weather and wind summary for September.

Day	T (°C)			RH (%)			S (m s ⁻¹)			Θ (deg)	U (m s ⁻¹)	C _g (deg)		
	min	max	avg	min	max	avg	min	max	avg			min	max	avg
1	11.8	17.8	14.6	75.6	97.9	91.3	0.6	5.9	2.9	187.8	2.4	8.9	38.5	17.6
2	11.7	21.8	15.9	38.8	98.7	75.6	0.3+	4.1+	1.7+	244.2+	0.6+	3.8	68.5	18.8
3	12.8	24.2	17.2	26.8	97.4	68.8	0.3+	4.0+	1.5+	330.9+	0.4+	3.1	72.3	20.7
4	11.6	23.7	15.9	33.6	96.4	69.6	0.4	6.0	1.8	351.4	1.3	3.4	67.8	18.2
5	9.6	26.9	18.3	22.0	93.8	52.2	0.3	5.4	2.6	5.4	2.3	4.8	49.4	17.7
6	15.1	31.3	23.1	18.4	59.3	34.7	1.6	8.4	4.5	1.1	4.2	5.7	24.8	16.7
7	15.0	34.1	24.2	10.9	73.3	33.7	0.3+	3.8+	1.9+	345.6+	1.1+	2.4	73.8	19.1
8	10.3	31.7	21.4	16.8	92.4	49.8	0.2	4.0	1.6	204.3+	0.3+	3.1+	77.0+	19.7+
9	14.8	31.9	22.7	18.5	77.7	42.4	0.2	4.7	2.3	341.5	1.5	3.2	78.4	19.0
10	10.7	33.0	21.5	15.3	95.2	55.5	0.2	3.1	1.2	26.1	0.4	2.8	71.9	20.6
11	12.9	35.7	23.3	12.9	93.9	50.7	0.2	2.8	1.2	341.2	0.4	3.1	76.8	20.8
12	11.6	35.2	23.2	11.6	93.0	48.1	0.2+	4.1+	1.2+	325.3+	0.3+	3.8+	63.3+	19.4+
13	17.4	35.0	26.1	18.6	76.2	39.3	0.2	5.4	2.3	352.0	1.9	4.3	53.5	15.6
14	17.1	27.6	21.7	47.1	85.4	68.1	0.2	4.3	1.5	319.0	0.7	1.9	75.4	17.7
15	16.4	29.7	22.1	23.1	92.1	62.2	0.2	3.6	1.4	192.9	0.6	2.3	70.6	19.7
16	12.0	32.7	22.4	22.5	94.5	55.7	0.2+	3.2+	1.3+	351.9+	0.6+	3.3	77.6	22.2
17	20.9	37.1	28.2	16.5	56.2	34.3	1.9	8.5	4.2	356.1	3.9	5.1	27.1	17.0
18	25.4	39.9	31.4	11.5	35.3	24.1	1.3	7.3	3.8	2.4	3.5	4.9	28.3	17.1
19	27.1	39.2	32.2	17.2	38.8	27.4	1.5	7.2	4.2	351.3	3.9	5.1	30.8	18.4
20	23.2	39.0	31.1	16.4	53.1	27.5	0.7	6.3	3.3	0.3	2.7	6.0	51.4	19.7
21	16.2	27.0	22.9	26.1	65.2	49.2	0.3	4.8	2.5	184.2	1.3	4.7	60.3	19.2
22	11.0	22.2	17.0	46.3	93.5	70.4	0.2	4.7	2.1	286.3	0.5	1.9	70.9	17.0
23	9.8	27.1	17.6	13.2	97.4	40.9	0.2+	6.7+	3.2+	357.4+	2.8+	3.4+	47.5+	17.5+
24	7.5	29.5	18.3	11.8	72.1	39.5	0.3	2.9	1.3	353.6	0.3	2.6	73.0	22.3
25	7.8	32.3	19.5	12.7	88.7	47.2	0.3+	3.1+	1.4+	343.1+	0.8+	1.9	76.5	20.5
26	9.4	32.2	20.5	16.6	85.8	47.3	0.2+	2.7+	1.3+	322.6+	0.7+	3.5+	67.4+	18.6+
27	11.0	34.4	22.5	14.5	83.5	46.3	0.3	3.2	1.6	264.2	0.3	2.4	73.7	19.3
28	11.7	29.8	20.3	27.5	90.3	58.2	0.3+	3.1+	1.3+	188.5+	0.5+	2.2	61.2	20.4
29	12.9	34.9	25.1	17.9	90.2	40.2	0.4	7.1	3.1	347.2	2.8	3.5	58.7	16.2
30	22.0	37.6	28.6	14.5	44.3	27.8	0.3	6.4	3.4	342.4	3.2	2.4	44.5	16.2
min	7.5	17.8	14.6	10.9	35.3	24.1	0.2	2.7	1.2		0.3	1.9	24.8	15.6
max	27.1	39.9	32.2	75.6	98.7	91.3	1.9	8.5	4.5		4.2	8.9	78.4	22.3
avg	14.2	31.1	22.3	22.5	80.4	49.3	0.5	4.9	2.3	348.3	1.1	3.7	60.4	18.8

Explanation of Symbols:

- All data unavailable for day
- * More than two hours of data unavailable
- + Two hours or less of data unavailable
- (no symbol) All data available for day

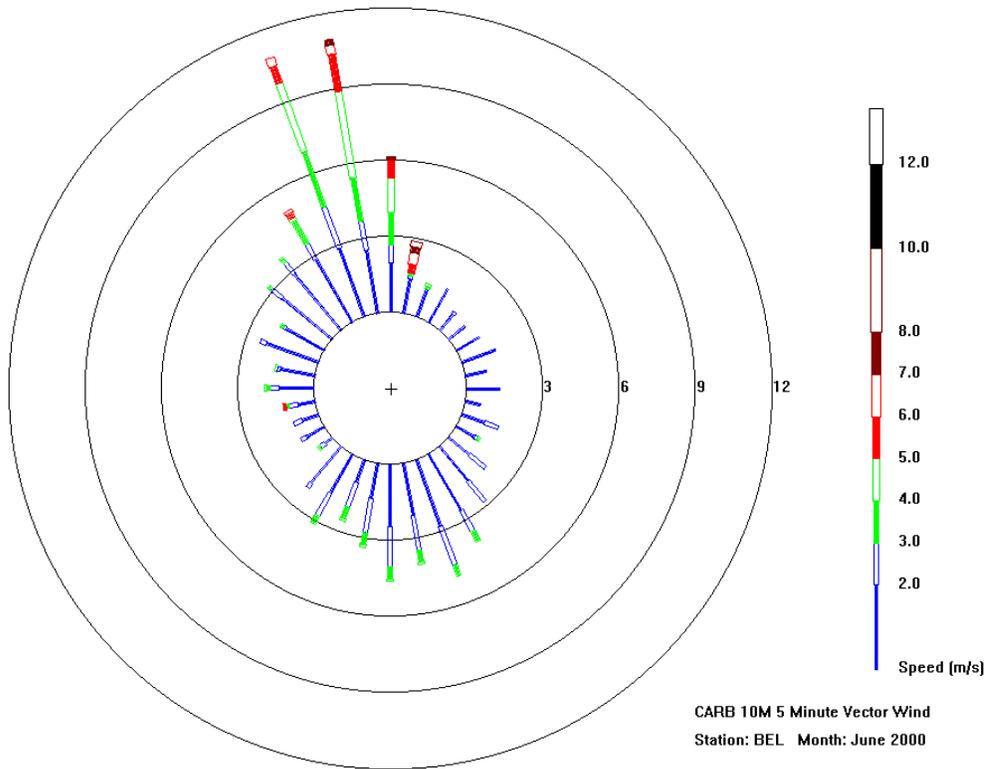


Figure 53. Bella Vista wind rose for June.

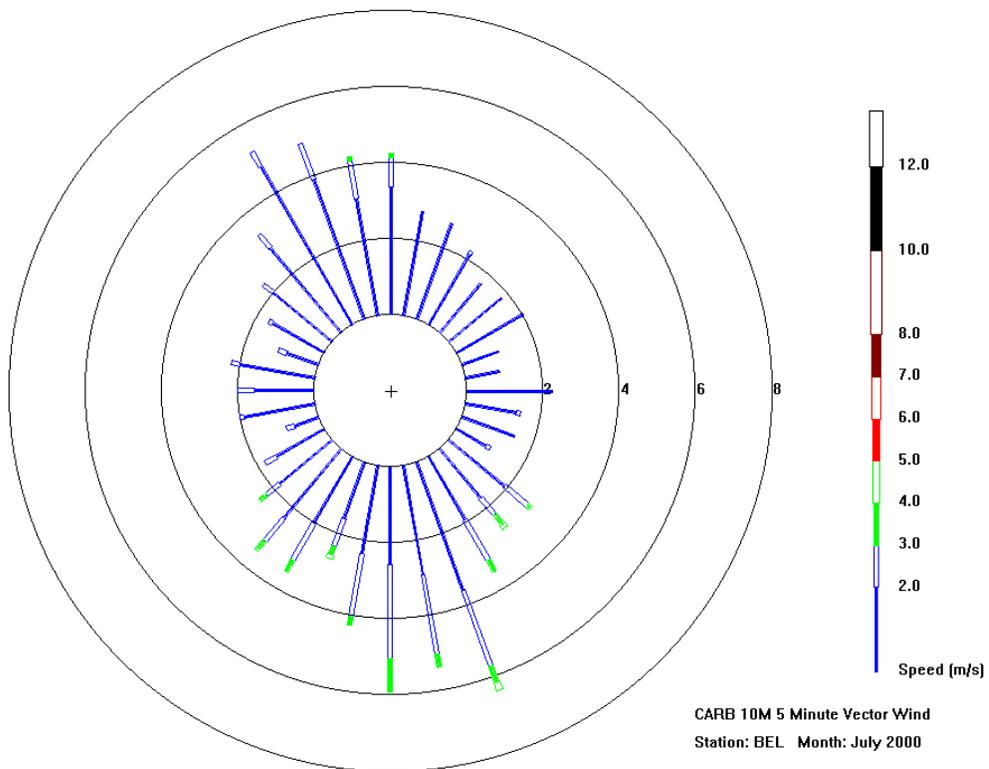


Figure 54. Bella Vista wind rose for July.

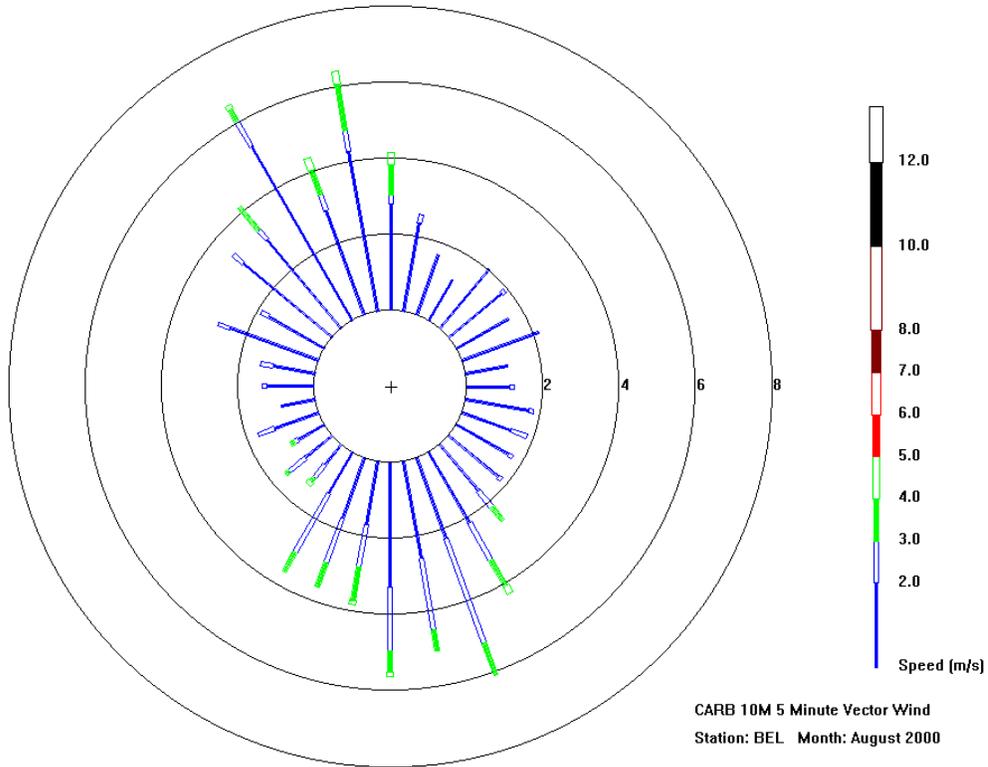


Figure 55. Bella Vista wind rose for August.

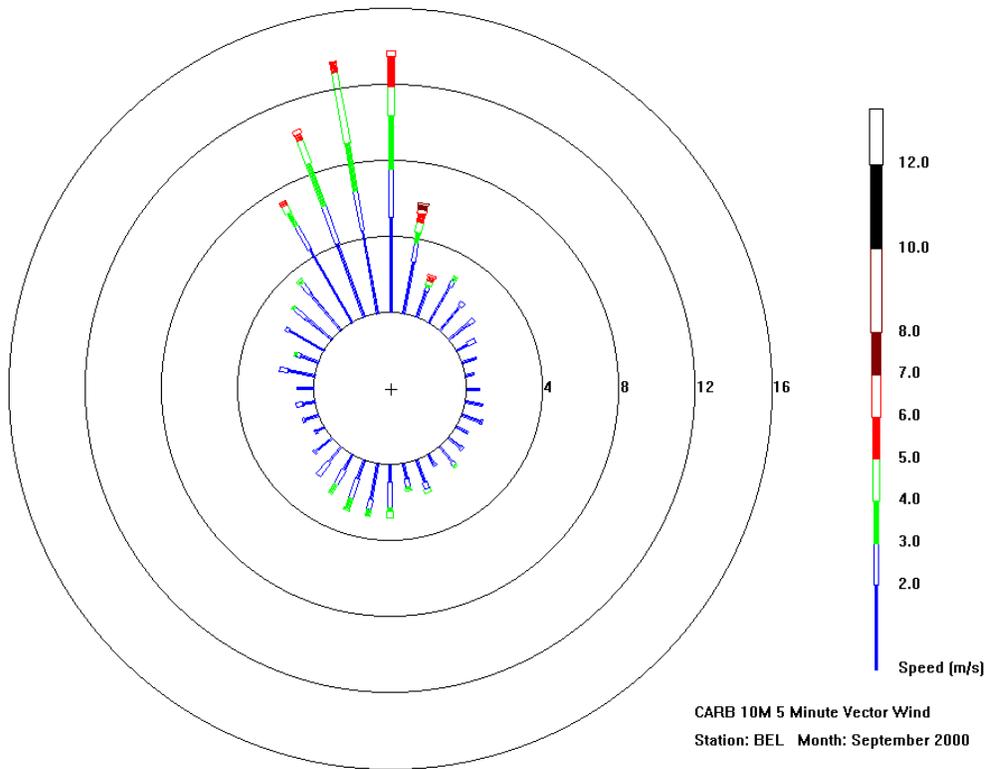


Figure 56. Bella Vista wind rose for September.